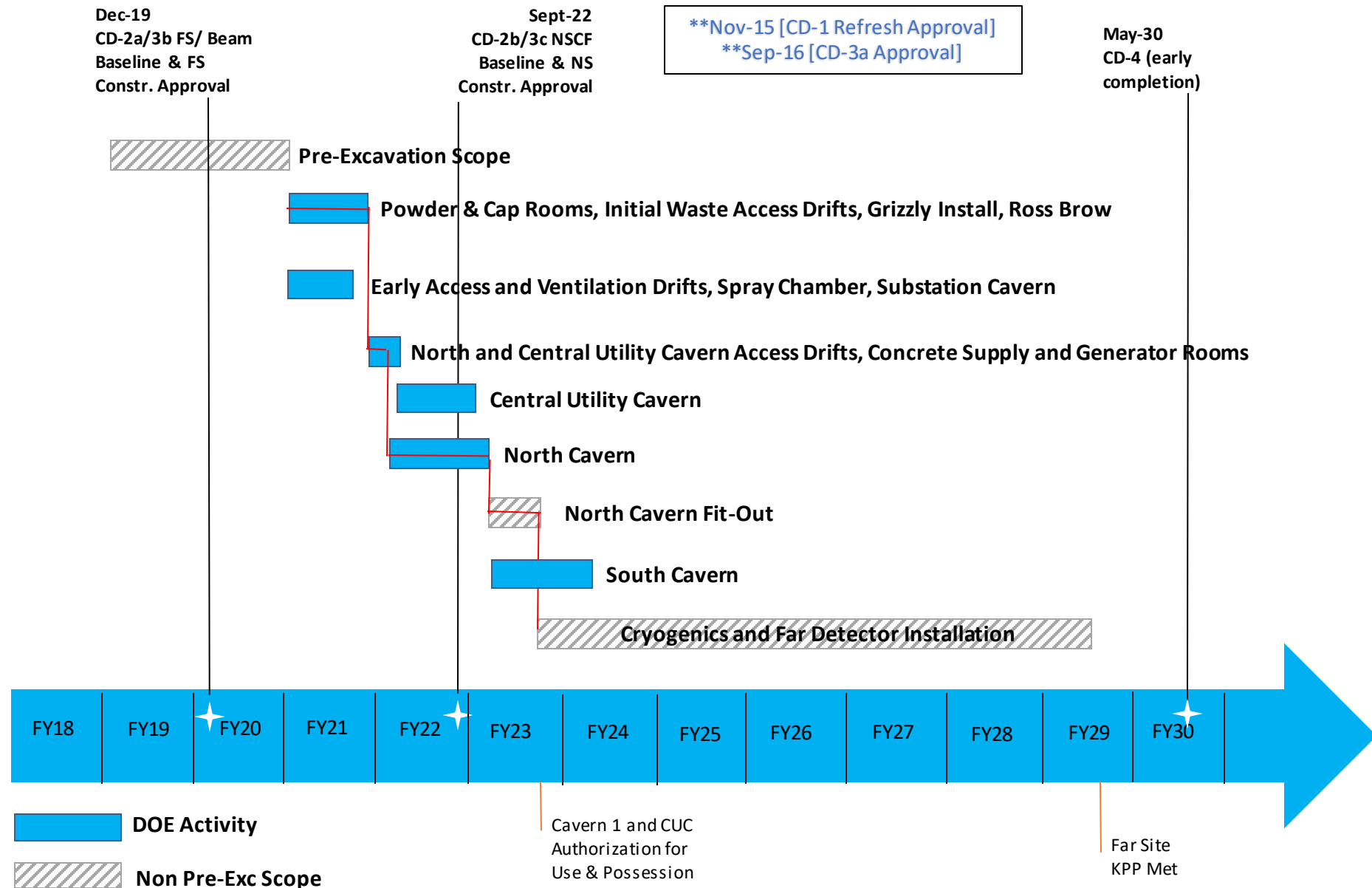


Sequencing and scheduling  
discussions at SURF -CF

# Cavern & Drift Excavation Summary Overview (based on Sept. 2018 status)



# Shaft use guidelines

- While excavation is occurring, both skips are in use. It is possible to replace one skip with a crosshead of proper weight to counterbalance and allow for beam delivery. However, this would limit excavation to 50% production PLUS any time that beams were being slung (you can't run rock and lower beams at the same time)
- Replacing a conveyance should be assumed as a two day activity, so it is not reasonable to switch back and forth between skip and counterweight.
- Any time pipe is being installed within the shaft, none of the conveyances can be used for other purposes for safety reasons.
- While pipe is being installed, both the skip work deck and the modified skip are used and therefore no excavation can occur without changing conveyance, which takes time (see #2)
- It may be possible to replace the modified skip with a crosshead that could support both steel deliveries and pipe installation, but this would require further analysis.
  - Again, these couldn't be done at the same time, but this could allow for alternating shifts to do alternating activities.
- If steel deliveries can be done in large batches, it may be possible to "pause" excavation to deliver a large amount of steel (ideally an entire cryostat), then resume excavation. This would require 2 day conveyance changes at start and finish.